

REMARKS/ARGUMENTS

The claims have been amended better to point out that which Applicants regard as their invention. More particularly, Claims 1 and 3 have been combined, Claims 7 and 8 have been combined, and Claims 12 and 14 have been combined. The claims before the Examiner for consideration are Claims 1, 2, 4, 5, 7, 9, 10, 12, 13, and 15-17; Claims 6, 11, and 18 remain withdrawn.

Claims 12-17 were rejected under the second paragraph of 35 U.S.C. § 112 as allegedly indefinite. The Examiner stated that the language of the independent claim was confusing as it was unclear which layer contained one or more elements selected from the group consisting of elements in Group 4A, 5A, and 6A and Si in a proportion of 0.02-0.1 on a molar ratio basis. The discussion in the specification is believed to make it clear that the layer containing those elements in the indicated proportion is the second recited layer, namely the B- and N-containing layer. See the second full paragraph on page 21 and the paragraph bridging pages 22 and 23 of the specification. The rejection should be withdrawn.

The rejection of Claims 1-5, 7-10, and 12-17 under 35 U.S.C. § 102 as anticipated by Inspektor '015 is respectfully traversed. The Examiner states that the description in the reference of an "intermixed layer" teaches the invention as claimed but Applicants respectfully disagree. Claims 1 and 7 have been amended to include features from previously pending, but now-canceled, claims specifying that a bond between one or more elements selected from the Groups 4A, 5A and 6A and at least any of B, C and N is contained in the graded composition layer. Claim 12 specifies that the hard coating film contains C in a proportion of 0.2 or less on a mole basis in at least the nucleation portion of the cubic boride nitride film. None of these features is in anyway taught or suggested by Inspektor '015. The discussion on columns 3 and 4 of the reference of the "intermixed layer" is only of a mixture of the elements of adjacent layers; there is no mention or hint of a bond between at least one

Group 4A, 5A, and 6A element and at least any of B, C, and N. The reference also does not discuss the arrangement and composition of Claims 12, 13, and 15-17. The rejection should be withdrawn.

The rejection of Claims 1-5 under 35 U.S.C. § 102 as anticipated by Doll '249 is also respectfully traversed. The Examiner here asserts that mention of a "gradual transition" in the Abstract of the reference suggests Applicants' claimed subject matter. Applicants respectfully disagree and again emphasize that this reference, as Inspektor '015, has no awareness of mention or the existence of a bond between elements selected from the groups 4A, 5A and 6A groups and at least any of B, C and N being contained in the graded composition layer. General mention of a "gradual transition" in the reference does not provide the disclosure necessary to teach or suggest Applicants' invention. The "graded transition" mentioned in the Abstract is one "between the interfacial layer of pure metal and the boron-carbide coating." The present claims require something more, not taught by or shown in the reference. The rejection should be withdrawn as well.

The rejection of Claims 1-5, 7-10, and 12-17 under 35 U.S.C. § 102 as anticipated by Fabian DD '826 or Inspektor EP '861 is also respectfully traversed. General mention of a "mixed layer" in the first reference and the figures in the second reference said to show a "change through the layer" do not teach or suggest the specific details of the claims in the present case and the rejection should be withdrawn as well.

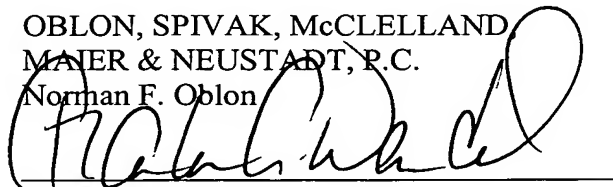
The rejection of Claims 12-17 under 35 U.S.C. § 102 as anticipated by Watanabe et al. '791 or Nissin Electric Company, Ltd. JP '446, both newly cited, if applied to the claims as amended, is respectfully traversed. The Examiner mentioned that drawings in the references allegedly show "the claimed gradation. Applicants respectfully submit that neither reference teaches nor suggests a hard coating film recited in Claims 12, 13, and 16-17 in

which the hard coating film contains C in a proportion of 0.2 or less on a mole basis and at least the nucleation portion. Accordingly, the rejection should be withdrawn.

In view of the foregoing revisions and remarks, it is respectfully submitted that the application is in condition for allowance and a U.S. PTO paper to those ends is earnestly solicited. The Examiner is requested to telephone the undersigned if additional changes are required in the case prior to allowance.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'Charles A. Wendel', is written over a horizontal line.

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